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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,111	01/26/2001	Ryusuke Sasaki	SIP1P042	7006

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BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

ARNOLD, ADAM

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 06/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,111

Applicant(s)

SASAKI, RYUSUKE

Examiner

Adam Arnold

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "700" has been used to designate both data boxes of Figure 9A and 9B. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, 8 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Dow, U.S. Patent No. 5,877,778. Referring to claim 1, Dow discloses a computer-readable recording medium for a video game (col. 3, line 8) for transforming a 3D object having a shape defined by a plurality of vertices (col. 9, lines 22-25), the program causing the computer to: obtain the rotation angle (col. 9, line 16) of each joint in a virtual skeleton of the 3D object (col. 9, line 19) where the plurality of vertices corresponding to the joints according to animation data defining the movement of the skeleton at every frame display period (col. 1, lines 63-65; and calculating the rotation angle (col. 9, line 16) and a weight predefined for the vertex

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corresponding to the joint and to move the vertex according to the rotation angle at every frame display period (col. 1, line 65 to col. 2, line 1).

Referring to claim 2, Dow discloses where the rotation angle of the vertex is calculated on the basis of one rotation angle relative to one rotation axis determined with the obtained rotation angle of the joint and the weight predefined for the vertex corresponding to the joint (col. 9, lines 1-2) and the vertex is moved to a position obtained by rotating the vertex through the rotation angle about the one rotation axis (col. 1, line 65 to col. 2, line 1).

Referring to claim 7, the remarks presented above with respect to claim 1 apply equally to this claim.

Referring to claim 8, the remarks presented above with respect to claim 2 apply equally to this claim.

Referring to claim 10, the remarks presented above with respect to claim 1 apply equally to this claim.

Referring to claim 11, the remarks presented above with respect to claim 1 apply equally to this claim.

Referring to claim 12, the remarks presented above with respect to claim 1 apply equally to this claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3, 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dow in view of Mohri, U.S. Patent No. 6,515,669. Dow discloses where the rotation angle of each joint is obtained for each of the three rotation axes intersecting at right angles (see Fig. 9C, "3D World Coordinates"); where in the movement of the vertices, one rotation axis and one rotation angle are calculated on the basis of the three obtained rotation angles of the joints (col. 9, lines 16-19); and where the vertex is moved according to the calculated rotation angle of the vertex and the one rotation axis at every display period (col. 1, lines 63-65). Dow does not disclose where the rotation angle is interpolated on the basis of the weight predefined for the vertex and the rotation angle is calculated. Mohri discloses where joint rotation angle data is determined by interpolation (col. 12, lines 22-25). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to determine joint rotation angle data by interpolation. One of ordinary skill in the art would have been motivated to do this in order because interpolation is a standard technique for determining missing or "middle" data.

Referring to claim 4, Dow does not disclose using "sphere-linear" interpolation. As pointed out in the rejection to claim 3 above, interpolation (a.k.a. "linear interpolation") is a standard mathematical technique for determining missing data. Applicant uses the term "sphere" to describe that the data involves angles, which if rotated around 3D axes will determine a sphere.

Referring to claim 9, the remarks presented above with respect to claim 3 apply equally to this claim.

Allowable Subject Matter

1. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

2. The following is an examiner's statement of reasons for allowance: The prior art does not anticipate, nor does it suggest, the system as claimed in claims 5 and 6. The prior art of record does not include determining whether the same weight as that predefined for the vertex moved immediately before is defined for the vertex to be moved and if it is defined, using that stored data to move the vertex.

The above indicated limitations, particularly in combination with the other limitations in the respective claims are not anticipated or suggested by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Adam Arnold** whose telephone number is **703-305-8413**. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso, can be reached at (703) 305-3885.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



JOSEPH MANCUSO
PRIMARY EXAMINER